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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,431	06/14/2005	George Hoshi	040549	8396
23850 7590 05/18/2007 ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			EXAMINER PRICE, CRAIG JAMES	
			ART UNIT 3753	PAPER NUMBER
			MAIL DATE 05/18/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/511,431

Applicant(s)

HOSHI ET AL.

Examiner

Craig Price

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3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the tape heaters held in contact with the bodies and block coupling members (claim 6) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1,4/1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (6,076,543) in view of Ikeda et al. (6,0114,498).

Johnson discloses a fluid control apparatus comprising a plurality of lines (as shown in figure 10) arranged in parallel on a base member (42) and having inlets, as well as outlets, facing toward the same direction, each of the lines comprising a plurality of fluid control devices (44,46,48) arranged in an upper stage and a plurality of block

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coupling members (77,78,80) arranged in a lower stage, and a space as shown in figures 2-10.

Johnson has disclosed all of the features of the claimed invention although is silent as having the fluid control apparatus being characterized in that at least one of the lines is provided on each of opposite sides thereof with a tape heater, a space for positioning a tape heater holding clip therein being provided in each of locations between adjacent fluid control devices the tape heaters being held from opposite sides thereof to the line by the clip, the line provided with the heaters being mounted on a line support member removably attached to the base member.

Ikeda et al. discloses a device which teaches a system having the fluid control apparatus being characterized in that at least one of the lines is provided on each of opposite sides thereof with a tape heater (11), a space for positioning a tape heater holding clip (13,24,18) therein being provided in each of locations between adjacent fluid control devices, the tape heaters being held from opposite sides thereof to the line by the clip (13).

It would have been obvious to one of ordinary skill in the art at the time of invention to employ the tape heater and clips of Ikeda et al. into the device of Johnson to have the fluid control apparatus being characterized in that at least one of the lines is provided on each of opposite sides thereof with a tape heater, a space for positioning a tape heater holding clip therein being provided in each of locations between adjacent fluid control devices the tape heaters being held from opposite sides thereof to the line by the clip, the line provided with the heaters being mounted on a line support member

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removably attached to the base member, in order to prevent condensation and for preventing the re-liquification of a gas as converted from a fluid which is in the form of a liquid at room temperature (Col.1, Lns. 5-10).

Regarding claim 6, the heater tape would be in contact with the block coupling members in as much in the same manner as applicant's device is shown.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '543 and Ikeda et al. '498 and further in view of Lengstorf (3,733,459).

Johnson and Ikeda et al. have disclosed all of the features of the claimed invention although are silent to the line support member has a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore.

Lengstorf discloses a device which teaches the use of a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore as shown in figure 3. It would have been obvious to one of ordinary skill in the art at the time of invention to employ Lengstorf's heater into the device of Johnson and Ikeda et al. to have the line support member has a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore, in order to enable use during subfreezing conditions (Col.1, Lns. 3-6).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '543 and Lengstorf (3,733,459).

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Johnson discloses all of the features of the claimed invention including wherein each of the coupling members is slidably mounted on the line support member, and each of the fluid control devices is mounted on at least two adjacent coupling members although is silent in having the line support member having a heater insertion bore formed therein and extending longitudinally thereof, a sheath heater being inserted into the bore.

Lengstorf discloses a device which teaches the use of a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore as shown in figure 3. It would have been obvious to one of ordinary skill in the art at the time of invention to employ Lengstorf's heater into the device of Johnson and Ikeda et al. to have the line support member has a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore, in order to enable use during subfreezing conditions (Col.1, Lns. 3-6).

6. Claims 2,3,4,5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '543 and Ikeda et al. '498 and further in view of Lengstorf (3,733,459).

Johnson and Ikeda et al. have disclosed all of the features of the claimed invention although are silent to the line support member has a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore the base member has a plurality of lateral rails made of a nonmetallic material and extending in a direction orthogonal to the lines.

Lengstorf discloses a device which teaches the use of a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into

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the bore, and the base member (32) has a plurality of lateral rails made of a nonmetallic material and extending in a direction orthogonal to the lines as shown in figures 2 and 3. It would have been obvious to one of ordinary skill in the art at the time of invention to employ Lengstorf's heater into the device of Johnson and Ikeda et al. to the line support member has a heater insertion bore formed therein and extending longitudinally thereof, and a sheath heater is inserted into the bore the base member has a plurality of lateral rails made of a nonmetallic material and extending in a direction orthogonal to the lines, in order to enable use during subfreezing conditions (Col.1, Lns. 3-6).

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Price whose telephone number is (571) 272-2712. The examiner can normally be reached on 7AM - 5:30PM M-R, Increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CP

14 May 2007



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